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ABSTRACT

The paper provides an overview of issues in postsecondary education programing for adults and adolescents with learning disabilities. Information provided is derived from a literature review and research and clinical experience. Definitional distinctions between learning disabled (LD) and underachieving students are noted and characteristics (both educational and psychological) of LD individuals are reviewed in terms of reading, written language, oral language, organizational skills, and interpersonal relationships. Elements of successful college programs are seen to include differentiated admission testing, remediation of basic skills, assistance in course content and counseling. Appended material includes a list of typical problem areas for LD college students in cognitive, language, work and study habits, social, perceptual-motor, academic, and affective skills. (CL)

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Postsecondary Programs for Learning Disabled Students

by

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A paper presented at the Thirteenth Southwest Regional Conference of the International Reading Association, Albuquerque, New Mexico, January 24-26, 1985.

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There is considerable interest at the present time in programs for adolescents and adults with reading and learning problems. (Johnson, 1984) There are several reasons for this interest. First, many of the children identified as learning disabled in the seventies have become older and as adolescents and adults face a different set of needs and concerns. Organizations such as the Association for Children with Learning Disabilities (A.C.L.D.) have changed their name and the focus of their concern to include adults. Second, increased awareness of learning disabilities has led many adults to a realization that the problems with which they have coped for many years may be caused by learning disabilities. Organizations such as the Association for Learning Disabled Adults (A.L.D.A.) and the Coalition of Learning Disabled Adults (LAUNCH) have come into being to draw attention to the needs of older persons, postsecondary education being one of these needs. Cordoni (1982) and Mangrum and Strichart (1984) provide complete listings of adult groups.

Third, the field of reading now recognizes learning disabilities as a specialty area within the context of adult reading and has changed its attitude towards adult reading as a field of study. Cranney (1983 a.) points out that adult reading has only just begun to be recognized as a profession with an identity. At one time teachers of adult reading were considered to be marginally trained, endured the low esteem of colleagues and were outside the mainstream of academic education. (Hall and Colley, 1975) In a review of two decades of adult reading programs, Cranney considers that in both basic and academic settings recognition of underprepared adults and their remedial needs is now generally accepted. An

identifiable literature, professional organizations, training opportunities and adult reading research is now available. (Cranney, 1983 b.)

A fourth possible reason for the surge of interest in postsecondary programs for adolescents and adults with learning disabilities is the declining enrollment in colleges and universities. (Mangrum and Strichart, 1984) Moss (1984) draws attention to the large group of undereducated, high intellect persons which comprise the adult learning disabled population estimated to be as many as sixteen million. Mangrum and Strichart (1984) project that college enrollment will drop to eleven million by 1988 due to the declining birthrate of the 60's, so that the learning disabled adults provide a new source of student enrollment. They also describe other factors such as special education legislation, pressure from advocates and philosophical commitment which have contributed to the interest in learning disabilities.

While there is considerable interest, there is at the same time great concern in knowing about the problems to be faced in providing postsecondary programs for learning disabled students. (Johnston, 1984) One of the major concerns is lack of a universally accepted definition of learning disabilities. Representatives of college and adult education programs can find little guidance from specialists in the field of what constitutes a learning disability in the young adult. (Gray, 1981) Remedial programs for adolescent and adult learning problems have developed without there being clear recognition of the categories of symptomatology which define the population of adolescents and adults identified as learning disabled. (Johnston, 1984)

Statement of purpose

The purpose of this paper is to provide an overview of issues and concerns to be faced in providing programs of postsecondary education to adults and adolescents with learning disabilities. Qualitative differences between learning disabled students and underachieving students will be described derived from a review of the literature and research and clinical experience in working with these students. The essential elements of successful remedial programs will be identified with specific examples of components used in the programs with which the two authors are associated. Emphasis will be placed on the academic areas, particularly reading, since this is the focus of the conference.

Problems of definition

The impetus for postsecondary programs for learning disabled adults came from two sources: first, the "open door" admission policies adopted by many colleges in the late 60's and 70's and secondly, P.L. 93-112 The Rehabilitation Act of 1973, section 504 (and amendments, P.L. 93-516). Regarding the first, Moreland (1976) points out that open door policies of admission have allowed many LD students to attend college; yet unless colleges accept responsibility for these students, the "open door" becomes the revolving door for many. Some colleges however have accepted the responsibility and do provide services for students with specific learning disabilities. (Cordoni, 1982) Community colleges, in particular those in California, were among the first to make special provisions for LD students

leading to the passing in 1976 of Assembly Bill 77 (AB-77) by the California Legislature. AB-77 is the prototype of legislation to ensure appropriate services to handicapped students, including Learning Disabled Average (LDA) as they are now called. (Ostertag et al. 1982)

The second source of admission for learning disabled students was through the provisions of section 504 of the Rehabilitation Act of 1973. Section 504 ensures that qualified handicapped persons are not denied admission or subjected to discrimination in admission and recruitment because of handicap. As Vogel (1982) points out this raises the critical questions of how to interpret the word "qualified" and how to determine if the student is learning disabled.

The definition of learning disabilities used in the schools was adopted in P.L. 94-142 Education for All Handicapped Children Act of 1975 and operationally defined in the Federal Regulations of 1977. The definition focused on a discrepancy between potential and achievement in one or more of seven areas. This has led to large numbers of underachieving students meeting the eligibility requirements for services as learning disabled without necessarily being learning disabled.

Six organizations which constitute the National Joint Committee for Learning Disabilities reached agreement on a new definition in 1981 (Hammill et al. 1981), and the new definition includes the phrase "presumed to be due to central nervous system dysfunction." The phrase is intended to spell out the intent behind the statement that learning disabilities are intrinsic to the individual. The dysfunction may be caused by inherited factors, biochemical insufficiencies or imbalances, trauma/damage or any other similar conditions that affect the central nervous system. Learning disabilities are not equated with underachievement in general, that is to

say, not all underachieving students may be considered learning disabled. There is a need for more precise identification.

The definition reads: "Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical difficulties. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g. sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g. cultural differences, insufficient, inappropriate instruction, psychological factors), it is not the result of those conditions or influences."

Another change of significance which occurred in 1981 is the definition of learning disabilities used by the Rehabilitative Service Administration (RSA) which made individuals with severe learning disabilities eligible for rehabilitative services. Gerber (1981) traces the events that led to this change, namely the inclusion of the disability in the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-111 1980) as a specific developmental disorder, and classification by the World Health Organization's International Classification of Diseases as a developmental delay.

Describing composites or characteristics associated with large groups of underachieving students is not sufficient to describe the population of learning disabled young adults (Mangrum and Strichart, 1984), yet some characteristics are common to both groups. Cole (1978) questions the validity of identifying a subjset of underachieving students as learning disabled, yet the research points out qualitative differences between the

two groups. In the field of reading, Downing (1982) reaffirms the qualitative differences between specific reading disabilities and developmental disabilities. Drawing together a large number of comparative studies of reading, he concludes that at the low end of the distribution of reading achievement there exists a small group of disabled readers (this group very likely forms a small "hump") who comprise between one and four percent of disabled underachieving readers in general.

Learning disabled individuals process information differently. The mental structures they construct result in qualitatively different learning. For a full discussion of which mental processes are important in the field of learning disabilities, see Psychology of Learning Disabilities by DeRuiter and Wansart. Learning disabled individuals often possess many cognitive strengths as Kinsbourne and Caplan (1979) point out, while Houck (1984) provides excellent research based data on the information-processing or cognitive characteristics of learning disabled children and adolescents.

Educational and psychological characteristics of adolescents and adults with learning disabilities

By definition learning disabled adolescents and adults are a group of individuals with diverse psychological, academic, social/emotional and vocational profiles. (Cronin and Gerber, 1982) It is true that many of the characteristics they exhibit are also evident in the non-handicapped population. Many of the deficits or problem areas are alleviated by maturation and experience in the non-learning disabled, whereas in the case of the learning disabled, the problem persists. The true test of a learning problem may therefore be its persistence according to Mercer (1979) and

Blalock (1981).

A second point to note about the educational and psychological characteristics reported is that the characteristics are interrelated. Cronin and Gerber (1982) find the characteristics they list affect several domains of behavior. Mercer (1979) emphasizes the influence of one characteristic on another. (Cronin and Gerber's list is shown in Appendix A.) Mangrum and Strichart (1984) summarize the reported characteristics from a number of studies of adult learning disabled and group these under seven categories: cognitive, language, perceptual motor, academic, work and study habits, social and affective. Their complete listing is also shown in Appendix A together with the studies from which the information is derived.

Simpson (1979) found that the majority of young adults with learning problems failed in college because of difficulties in reading, written language, lack of organizational skills and interpersonal problems. These four areas and oral language will be considered in more depth. As Mangrum and Strichart (1984) point out, all of the characteristics do not apply to any one student. Each student has a different pattern of characteristics and a unique learning style, so that there may be wide variation between one student and another.

Reading

Bireley and Manley (1980) report below average reading skills as one of the major problems experienced by students enrolled in the LD program at Wright State University since its inception in 1973. They found that some students experienced difficulty in decoding but could derive meaning if the material were read to them. Others read well orally but had problems in

comprehension. Gillespie (1984) points out that problems in reading derive from a variety of sources and require careful assessment. Mangrum and Strichart (1984) report that LD college students had problems with the following: applying phonics rules and generalizations, decoding unfamiliar words, understanding what was read, determining the main ideas, maintaining an efficient rate of reading and adapting the rate of reading to specific reading purposes.

Problems reported relating to word identification skills are perceptual confusion, visual discrimination difficulties and deficits in short term memory. (Cronin and Gerber, 1982) The poor decoding skills of the disabled reader are considered by Stanovich (1982) to be more to the latter than the former. DeRuiter and Wansart (1982) state that difficulties with perceptual processing have long been a primary emphasis in the learning disability field and measurement and methodological questions abound. They point out that recognizing sequence in perceptual stimuli is commonly overused as an example of a learning disability (e.g. responding with "was" for "saw"), and they consider it to be more a problem of short term memory than perception. LD students do have problems in perceptual sequencing which show up in sequencing sounds into words, in telling time, in spelling, writing and indeed organizing and planning activities in general.

Another area of dysfunction in perceptual processing is in coordinating stimuli from two or more sources. (DeRuiter and Wansart, 1984) Blalock (1982) found an inability to understand the common meaning of root words, so that root words with affixes were not perceived as related by learning as separate vocabulary items. Blalock points out that this makes the acquisition of vocabulary a time consuming task for the adults with whom she worked, as well as affecting reading comprehension.

Stanovich (1982 a. and 1982 b.) points out that poor readers suffer from a lack of phonological awareness that impairs their ability to phonologically segment, analyze and synthesize the speech stream. This skill is crucially related to the ability to decode words by phonological recoding and accounts for the word-level processing deficits of poor readers. This inability to rapidly form and maintain phonological codes affects short term memory and hinders comprehension. It is not the only source of short term memory problems (DeRuiter and Wansart, 1982), since learning disabled persons have problems in temporary storage of incoming stimuli and in employing rehearsal strategies to retain information in short term memory. They further point out that it is not known if these students have problems with knowing "how" to rehearse or "when" to research. Stanovich reviewing the work of Torgesen (1977) considers that poor readers seem to be less prone to employ even strategies that are within their capability.

Problems in understanding what was read is reported by many researchers. Critchley (1973) found the LD adults with whom he worked to be imprecise readers, making it difficult for them to derive the main idea from the text even after reading it several times. Blalock (1982) describes the comprehension difficulties of the adults with whom she worked. Gillespie (1984) considers that poor comprehension derives from a lack of coding efficiency or ability to move easily and automatically from the oral language code (sounds and structure of the spoken word) to the written code (patterns and structure of the written word.) Coding efficiency according to Gillespie underlies the effective use of the secondary symbol system of language in print. An inability to manage the automatic coding process is a

basic indication of a true language/learning disability. (Gillespie, 1984)

Comprehension deficits in reading may be caused not only by language related problems, but by a lack of general metacognitive strategies. (Stanovich, 1982 a. and 1982 b.) MacGinitie et al. (1980) studied the information processing strategies of learning disabled students in the upper elementary grades, and the results of these studies provide an interesting explanation of comprehension difficulties which may also apply to learning disabled college students.

Learning diabled children in the upper elementary grades were found to employ one or more unproductive strategies in reading which adversely affected comprehension. The first strategy was an inflexible application of an initial hypothesis. Disabled readers formed an interpretation of the early portion of the text and then tried to interpret all the subsequent text to conform to the initial interpretation. Mangrum and Strichart (1984) found that learning disabled college students had difficulty in switching strategies as appropriate, difficulty in distinguishing important from unimportant information and lack of ability in reasoning in a deductive manner. DeRuiter and Wansart (1982) report that learning disabled persons have difficulty in inferring meaning, but only in some limited areas (presumably text related). Many researchers have found the originality/uniqueness aspect of creativity an ability or strength in learning disabled persons.

The second type of non-accommodating strategy described by MacGinitie et al. (1980) which affects comprehension in reading is over extension of a general framework derived from prior knowledge. LD students tended to over-rely on the general background knowledge which they bring to the reading process. This knowledge, instead of facilitating comprehension,

interfered with it since the disabled readers interpreted the text to conform to what they already know about the topic. The thinking of these students is so inflexible that they may change the details of the text to conform to prior knowledge with adverse effects on comprehension.

DeRuiter and Wansart (1982) describe the cognitive processing problems experienced by learning disabled persons and how these appear in at least four general areas namely, comprehension, rule application, structuring information and problem solving. Difficulties in reading comprehension may be apparent when the material is complex and when words with multiple meanings are used. Sheridan (1983) considers that LD college students must come to grips with the intricacies of the reading process. Textbooks on tape are a crutch which prevent the student from improving in reading. The widespread use of audio-visual material as a source of background information should be tempered with teaching the student to balance input from various levels of processing such as orthography, syntax, text structure, etc. with prior knowledge.

Written language

Significant written language deficits are characteristic of all the learning disabled college students with whom Cordoni (1980) worked. Blalock (1981) reports that between 80-90% of learning disabled adults have problems with written language. Mangrum and Strichart (1984) describe specific problems as: difficulty in expressing ideas precisely and clearly, problems in using a variety of sentence structures and an appropriate range of words, difficulty in organizing thoughts and writing compositions of sufficient length for the purpose for which it is required.

Among the patterns of deficits in written language often reported are misspellings which may be phonetically based ("orinj" for "orange"), bizarre or reflective of an inability to differentiate between sounds and maintain the correct sequence of letters ("oraneg" for "orange"). In an investigation of the written language abilities of college learning disabled students, Gregg (1982) found a higher percentage of mechanical errors in their writing, and the errors differed from those of underachieving students in frequency and type. In a later study Gregg (1983) documents qualitative differences between LD students and "basic writers", ie. students of average mental ability who are not learning disabled but who are underachieving in written language.

Vogel and Moran (1982) used holistic scoring techniques on essays of learning disabled students and found the quality of the writing to be significantly poorer than that of entering students. In the area of punctuation Critchley (1973) found that LD adults used fewer punctuation marks, and those they used were frequently incorrect. Blalock (1981) found knowledge of rules of punctuation and capitalization to be severely limited for LD adults. Cordoni (1979) reported that students used a limited number of words and rarely used words longer than three syllables.

The difficulty in written language is not surprising according to Gillespie (1984), since reading and writing are two aspects of the same process both using the secondary symbol system of written symbols to stand for oral language. Evidence for word recall difficulties in learning disabilities is substantial. (DeRuiter and Wansart, 1982) The presence of processing problems related to the recalling subcomponent of encoding has considerable support.

A second component of encoding is organizing. Difficulty in expressing

ideas in a logical sequence to communicate the intended meaning is reported by many writers including DeRuiter and Wansart (1982) and Mangrum and Strichart (1984). This leads to problems in taking notes from class lectures as well as to difficulty in completing written examinations especially when time constraints are involved. Another subcomponent of encoding which applies particularly to the encoding of written work is monitoring. Learning disabled students have a lower sensitivity to errors than normal students which makes it difficult for them to monitor, evaluate and correct their written work, even when given the opportunity to do so. (Alley and Deshler et al. 1978)

According to Vogel (1982) the area of greatest concern to faculty in postsecondary settings is written language, while other writers point out that written work may never reflect the true intellectual ability of students with learning problems.

Oral language

Blalock (1982) found that only a few of the learning disabled adults with whom she worked had immediately recognizable problems of oral expression that interfered with communication at a casual conversational level. Their language was adequate in basic interpersonal communication skills. The level of cognitive academic linguistic proficiency (Cummins, 1983) was inadequate. During extended conversation, when required to use language for explanation and reasoning, certain deficits were evident.

Mangrum and Strichart (1984) consider that learning disabled students have problems in using mature syntactical patterns, using an appropriate range of vocabularly, using words in their appropriate context and

retrieving the appropriate word for a situation.

Blalock (1982) describes pronunciation problems and mispronunciations. She found LD students had problems in organizing the narrative and tended to engage in long disjointed conversations which interfered with the effective communication of ideas.

Language difficulties which impinge on both spoken and written language are described in the many studies of Wiig and Fleischmann (1980), Wiig, Kuchner et al. (1977) and Wiig and Semel (1975). These studies and others report the persistence of high level syntactic deficits among learning disabled young adults who have achieved college status. Problems noted specifically are: an inability to apply the selectional rules for reflexive pronoun plurals; deficits in resolving relativized sentences into component sentences and the obverse deficit in synthesizing component sentences into relativized sentences. (The first problem means that they do not know how to use the third person plural reflexive pronoun "themselves" correctly, but used "theirselves, them, theirself, etc." The second means that they could not identify smaller sentences in more complex sentences or break down a complex sentence into simpler elements.) Complex sentences are a more compressed and more time-efficient method of expressing thought in both oral and written language. An understanding of complex sentences and embedding is essential in reading and writing college level material. It is interesting that Wiig and Semel suggest that this syntactic immaturity persists even in the face of adequate potential for academic achievement.

Language problems may be due to an inability to understand the nature of language. Recent studies show that students with reading and written language problems often have meta-linguistic problems (Hook and Johnson, 1978; Johnson and Hook, 1978), that is to say, problems in thinking about

language and in talking about language. This lack of meta-linguistic awareness of different kinds of language for different purposes may contribute to problems in social interaction, knowing what to say in a situation, understanding humor and engaging in small talk.

Bireley and Manley (1980) point out that success in college depends on knowing how to ask for help as well as who to ask. Deficits in language may contribute to problems in relating to instructors and advisors as well as peers.

Organizational skills

Learning disabled students were described by Mangrum and Strichart (1983) as generally lacking in good work and study habits. Specific problems reported include: organizing and budgeting time, completing work when due, getting work started, sustaining effort on a task and establishing long and short-term goals and objectives. Kronick (1982) elaborates on some of these characteristics and points out that LD adolescents at the college level are unrealistic in setting goals and either expect too much or too little of themselves. She also considers the students to be rigid in their habits and limited in the ability to look at problems, analyze them and select reasonable alternatives. This lack of flexibility has been noted in reading comprehension, in understanding or gaining meaning from complex verbal conversations and in notetaking from lectures. (Deshler, Schumaker, Alley, Warner and Clark, 1982)

The implication is therefore that LD students need to be taught organizational and study skills, but as Clary (1984) points out, the solution is not that simple. In order to use such skills, the learner must

be able to control his/her metacognitive actions, and LD persons have difficulty in doing this. Wong (1982) and Torgesen (1977) researched the development of metacognitive skills in LD students and conclude that LD students are deficient in the ability to use self-checking skills. Brown (1980) found LD students deficient in self-questioning skills which would enable them to determine their own inadequacies. Bireley and Manley (1980) report an inability in students to find ways to improve performance.

DeRuiter and Wansart (1982) provide an excellent discussion of the processes involved in metacognition, the ability to think about thinking and the ability to structure thought in an abstract, logical way. They point out that learning disabled persons must be helped to discover and use logical thinking strategies and must be actively involved in the generation of strategies. Brown (1980) and Clary (1984) point to the need to make LD students aware of how they learn, how they use their time and how to assess their current study habits before teaching more efficient study strategies and problem solving skills.

Interpersonal relationships

Cordoni (1982 b.) has identified social functioning as a major problem area for learning disabled college students. Her view is supported by many other professionals who work with this population. (Mangrum and Strichart, 1984) Difficulties include: establishing good relationships with others, making friends, working effectively with others, reading body language and facial expressions, relating to authority figures such as professors and advisors, understanding humor and sarcasm and engaging in "small talk."

These characteristics appear to derive from deficits in the habit level

of responding. Learning disabled persons, according to DeRuiter and Wansart (1982), may be unable to express their personal views in written or verbal form and may demonstrate a lack of awareness of others' needs or feelings. They may be unable to recognize, as was previously pointed out, when their own responses are correct or incorrect. Their rate of expression may be inappropriate for the situation. The learning disabled person may be unable to evaluate or see the implications of meaningful situations. DeRuiter and Wansart (1982) see the persistent and excessive presence of these behaviors as an indication that the LD person is having difficulty responding at the habit level.

The literature is replete with descriptions of affective characteristics of LD persons, (Mangrum and Strichart, 1984) social skills and the relationship of social skills to academic success (Cartledge and Milburn, 1978). The relationship between learning disabilities and personality characteristics is a controversial one. Cox (1977) discusses the emotional strain under which LD adults function, which may cause personality disorders. Other writers (Kinsbourne and Caplan, 1979) attest to the resilience or ability to bounce back of the true learning disabled.

Undoubtedly, personality factors affect motivation and Bireley and Manley (1980) describe some of the problems with which the LD student has to come to terms. One of the major ones is complete acceptance of the fact, cognitively, emotionally and behaviorally that they need to spend more time and energy on their studies than do their peers. Another problem area in interpersonal relations is learning interdependence, which is knowing when to be dependent and when not to be. (LD students tend to be overly dependent or overly independent.) Barbaro (1982) considers that the social

services component of college programs may be as important as the educational component because of the need for counselling and facilitation of interpersonal relations.

Essential elements of college programs

It is important to respond to the characteristics described in learning disabled college students when planning and developing programs of postsecondary education. The heterogeneity between students makes it difficult to determine in advance the precise modifications required in programming. Nevertheless, successful programs have certain common elements.

Mangrum and Strichart (1984) point out that a comprehensive program is one that provides services such as: differentiated testing for admission, remediation of basic skills, assistance in course content and counselling. Kahn (1980) and Vogel and Satler (1981) provide a variety of specific strategies to modify many of the educational and psychological characteristics described. Mangrum and Strichart (1984) identified teaching strategies applicable across all disciplines from a review of the U. S. Department of Education three-year demonstration project at Central Washington University (project HELDS, Higher Education for Learning Disabled Students).

For a description of specific programs and program models, Johnston (1984), Mangrum and Strichart (1984), Cordoni (1982) and Ostertag et al. (1982) provide good descriptions. Three points arise from these reviews. First, the studies point to the need for a program catalyst, a person of some stature on each campus committed to making the program work. This

person is not necessarily the program director, but one who can ensure the support of the faculty and the administration, without which the program will not work.

The second point to be borne in mind is that these programs are expensive to provide and may never become cost effective. Bireley and Manley (1980) and Barbaro (1982) state that comprehensive services are expensive, and even if there is a surcharge for learning disabled students, the revenue is unlikely to cover the entire cost of the support services.

Third, although there has been an increase in the number of programs over the past ten years (Johnston, 1984), individual programs show a lack of growth and tend to remain about the same size. The reason for this may be due to apathy towards learning disabilities by college faculty, lack of cost-effectiveness and the high rate of attrition of students who drop out of programs designed specifically to achieve them.

East Texas State University has been serving learning disabled students for the past eleven years. Moss (1984) reports that when needed supportive services are available and used by students, LD students can succeed. Preliminary findings from the research over the past ten years shows that a larger percentage of LD students make the Dean's List and the President's List than is true of the general student population (proportionately to their numbers). Students are mainstreamed for instruction and all undergraduate majors are open to the LD student. (Moss and Fullwood made an excellent videotape in 1983 of a panel of these students describing their experiences at the postsecondary level, their problems and their achievements.)

Richland College which is a constituent college of the Dallas County Community College District has provided programs for learning disabled

students since its inception. At first the programs formed part of the adult basic education program remedial skills program. (Hughes, 1979) Over the years recognition of the needs of specific learning disabled students developed culminating in the funding of a special program in October 1984.

References

Alley, G., and Deshler, D. Teaching the learning disabled adolescent: strategies and methods. Denver: Love, 1979.

Barbaro, F. "The learning disabled college student: Some considerations in setting objectives." Journal of Learning Disabilities, 1982, Vol. 15.

Bireley, M. and Manley, E. "The Learning Disabled Student in A College Environment: A Report of Wright State University Program." Journal of Learning Disabilities, January 1980, Vol. 13:1.

Blalock, J. W. "Persistent auditory language deficits in adults with learning disabilities." Journal of Learning Disabilities, 1982, Vol. 15, No. 10.

Blalock, J. W. Persistent problems and concerns of young adults with learning disabilities. In W. Cruickshank and A. Silver (Eds.) Bridges to Tomorrow, The Best of ACLD. (Vol. 2) Syracuse University Press, 1981.

Brown, D. "Learning despite learning disabilities." In M. R. Schmidt and H. Z. Sprandel (Eds.) New directions for student services: Helping the learning disabled student. (No. 18) San Francisco: Jossey-Bass, 1982.

Cartledge, G., and Milburn, J. F. "The case for reaching social skills in the classroom: A review." Review of Educational Research, 1978 (481) 133-156.

Clary, L. M. The application of study techniques with learning disabled adolescents. In W. M. Cruickshank and J. M. Kliebhan (Eds.) Early Adolescence to Early Adulthood. Volume 5, The Best of ACLD. Syracuse University Press, 1984

Cole, "Learning Disabilities Battery." Harvard Educational Review, August 1978, Vol. 48, No. 3.

Cordoni, B. K. "Postsecondary education: Where do we go from here?" Journal of Learning Disabilities, 1982, Vol. 15, 265-266.

Cordoni, B. "A Directory of College LD Services." Journal of Learning Disabilities, November 1982, Vol. 15, No. 9.

Cordoni, B. K. "College programs for LD students." Perceptions, 1980, Vol. 3, No. 1.

Cordoni, B. "What Psychology and Special Education Have to Share With Teachers of Writing." Paper presented at Annual Conference on the Teaching of Technical Writing, Carbondale, Illinois, ED 161074, 1979.

Cox, S. "The learning disabled adult." Academic Therapy, 1977, Vol. 13, No. 1.

Cranney, A. Garr. "Two decades of adult reading programs: Growth, problems and prospects." Journal of Reading, February 1983 a. Vol. 26, No. 5

Cranney, A. Garr. "The literature of adult reading. Selected references." Journal of Reading, January 1983 b. Vol. 26, No. 4.

Critchley, M. "Some problems of the ex-dyslexic." Bulletin of the Orton Society, 1973, 23, 7-14.

Cronin, M. E., and Gerber, P. J. "Preparing the learning disabled for adulthood." Topics in Learning Disabilities, 1982, Vol. 2, No. 3.

DeRuiter, J., and Wansart, W. Psychology of Learning Disabilities. Aspen Publications, 1982.

Downing, J., and Leong, C. K. Psychology of Reading. New York: Macmillan Publishing Co., 1982.

Gerber, P. J. "Learning disabilities and eligibility for vocational rehabilitation services: A chronology of events." Learning Disability Quarterly, 1981, Vol. 6, No. 1.

Gillespie, J. Group screening for language learning disabilities in Junior High, High School, and Community College Populations. In W. M. Cruickshank and J. M. Kliebhan (Eds.) Early Adolescence to Early Adulthood. Volume 5, The Best of ACLD. Syracuse University Press, 1984.

Gray, R. "Serving adults with presumed learning disabilities." Journal of Developmental and Remedial Education, 1981, Vol. 4, No. 2.

Gregg, K. N. An investigation of the breakdown in certain aspects of the writing process with college age learning disabled, normal, and basic writers. Unpublished doctoral dissertation, Northwestern University, 1982.

Gregg, N. "College Learning Disabled Write: Error Patterns and Instructional Alternatives." Journal of Learning Disabilities, June/July 1983, Vol. 16, No. 6.

Guildroy, J. "The Learning-disabled College Applicant." College Board Review, Summer 1981, No. 120.

Hall, M., and Coley, J. D. "Needs in reading instruction in adult basic education." Adult Leadership, November 1975, Vol. 24.

Hammill, Leigh, J., McNutt, G. and Larsen, S. "A New Definition of Learning Disabilities." Learning Disability Quarterly, 1981, Vol. 4, No. 4.

Hook, P., and Johnson, D. "Metalinguistic awareness and reading strategies." Bulletin of the Orton Society, 1978, 27, 62-78.

Houck, C. K. Learning disabilities. Understanding concepts characteristics and issues. Englewood Cliffs, N.J.: Prentice Hall, 1984.

Hughes, S. "College level programs in for LD students." Panel presentation at State Conference of the A.C.L.D., October 3-5, 1979, Houston, Texas.

Johnson, D., and Hook, P. Reading disabilities: Problems of rule acquisition and linguistic awareness. In H. Myklebust (Ed.), Progress in Learning Disabilities. (Vol. 4) New York: Grune and Stratton, 1978.

Johnston, C. L. "The learning disabled adolescent and young adult: an overview and critique of current practices." Journal of Learning Disabilities, August/September 1984, Vol. 17, No. 7.

Kahn, M. S. "Learning problems of the secondary and junior college learning disabled student: Suggested remedies." Journal of Learning Disabilities, 1980, Vol. 13.

Kinsbourne, M., and Caplan, P. Children's Learning and Attention Problems. Boston: Little, Brown and Company, 1979.

Kollaritsch, J. Reading and Study Organization Methods for Higher Learning (Revised). Columbus, Ohio: Komo Assoc., 1981.

Kronick, D. "The Learning Disabled Adult." Learning Times, 1982, 16, No. 4.

MacGinitie, W. H., Kimmel, S., and Maria, K. "The role of cognitive strategies in certain reading comprehension disabilities." The Forum, Fall 1980, Vol. 6, No. 4.

Mangrum, C. T., and Strichart, S. College and the Learning Disabled Student. Grune and Stratton Inc., 1984.

Marsh, G. E., Gearhart, C. K., and Gearhart, B. R. The learning disabled adolescent, program alternatives in the secondary school. St. Louis, Missouri: C. V. Mosby Company, 1978.

Mercer, C. D. Children and Adolescents with Learning Disabilities. Columbus, Ohio: Charles Merrill Publishing Co., 1979.

Moreland, W. "The fly in the ointment or Why couldn't they have left things as they were: The Compensatory effort in Higher Education." Paper presented at Annual Meeting of the Western College Reading Association, Anaheim, California. ED 110966, 1976.

Mori, A. "Career education for the learning disabled - Where are we now?" Learning Disabilities Quarterly, 1980, Vol. 3, No. 1.

Moss, J. "A new source of college students." College Helps Newsletter. Tulsa, OK. Partners in Publishing, December 1984, Vol. 9, No. 12.

Ostertag, B. A., Baker, R. E., Howard, R. F., and Best, L. "Learning disabled programs in California community colleges." Journal of Learning Disabilities, 1982, Vol. 15.

Pank, Walter. How to Study in College, 2nd ed. Boston: Houghton Mifflin, 1974.

Sedita, J. "Help for the learning disabled college student." ERIC document 207412, 1982.

Sheridan, H. Keynote address at "Dyslexia goes to college" Conference at Southern Methodist University, Dallas, Texas, September 23, 1983.

Simpson, E. Reversals. Boston: Houghton Mifflin, 1979.

Stanovich, K. E. "Individual differences in the cognitive processes of reading. I Word Decoding." Journal of Learning Disabilities, 1982 a., Vol. 15, No. 8.

Stanovich, K. E. "Individual differences in the cognitive processes of reading. II Text Level Processes." Journal of Learning Disabilities, 1982 b., Vol. 15, No. 9.

Torgesen, J. K. "Memorization processes in reading-disabled children." Journal of Educational Psychology, 1977, 69, 571-578.

Vogel, S. "On Developing LD College Programs." Journal of Learning Disabilities, November 1982, Vol. 15, No. 9.

Vogel, S., and Moran, M. R. "Written language disorders in learning disabled college students: A preliminary report." In W. Cruickshank and J. Lerner (Eds.) Coming of Age, Volume Three, The Best of ACLD. Syracuse University Press, 1982.

Wiig, E. and Fleischmann, N. "Prepositional Phrases, Pronominalization, Reflexivization and Relativization in the Language of LD College Students." Journal of Learning Disabilities, 1980, Vol. 13.

Wiig, E. H., Florence, D. P., Kutner, S. M., Sherman, B., and Semel, E. M. "Perception and Interpretation of Explicit Negations by Learning Disabled Children and Adolescents." Perceptual and Motor Skills, 1977, 44.

Wiig, E., and Semel, E. Language disabilities in children and adults. Columbus, Ohio: Merrill Publishing Co., 1976.

Wiig, E. H., and Semel, E. M. "Productive Language Abilities in Learning Disabled Adolescents." Journal of Learning Disabilities, 1975, Vol. 8.

Wong, B. "Strategic behaviors in selecting retrieval cues in gifted, normal achieving and learning disabled children." Journal of Learning Disabilities, 1982, Vol. 15, 33-37.

Appendix A

Source: Cronin, M. E., and Gerber, P. J. "Preparing the learning disabled adolescent for adulthood." Topics in Learning Disabilities, 1982, Vol. 2, No. 3, pp. 55-68.

Table 1. Characteristics of learning disabled adolescents (as noted in the literature)

	Academic	Social/ emotional	Vocational
Oral language			
Difficulty in listening**	X	X	X
Auditory perception problems**	X	X	X
Auditory comprehension problems**	X	X	X
Auditory memory and sequential problems**	X	X	X
Auditory disc problems**	X	X	X
Problems in organization and formulation of ideas*	X	X	X
Difficulty in selecting relevant information**	X	X	X
Problems in auditory analysis	X		
Physical aspects			
Physically smaller than peers		X	
Awkwardness	X	X	X
Motoric awkwardness	X	X	X
Interpersonal relationships			
Alienation from family		X	
Quickly yields to pressure of others		X	X
Problems in general social behavior**		X	X
Affective			
Feelings of inadequacy	X	X	X
Frustration	X	X	X
Immaturity		X	X
Inner rage	X	X	X
Passive aggression	X	X	X
Active aggression	X	X	X
Poor self-concept	X	X	X
Reduced motivation	X	X	X
Delinquency		X	
Daydreaming	X	X	X
Social perception			
Inappropriate comments**		X	X
Inappropriate use of personal space**		X	X
Difficulty in anticipating behavior of others	X	X	X
Difficulty in changing behavior problems	X	X	X
Difficulty in generalizing from experience	X	X	X
Inflexibility	X	X	X
Tendency toward impulsive decisions or judgments	X	X	X
Less mature in career choice (Bingham, 1978)*			X

Table 1. (continued)

	Academic	Social/ emotional	Vocational
Thinking and reasoning skills			
Outlining problems**	X	X	X
Problems in selecting main ideas**	X	X	X
Problems in identifying relevant material**	X	X	X
Verbal comprehension problems**	X	X	X
Major cognitive deficits	X	X	X
Persistent confusion	X	X	X
Poor problem solving	X	X	X
Poor logical reasoning and abstract thinking abilities	X	X	X
Lack of schematic and organizational judgment	X	X	X
Misled by irrelevant information (Havertape, 1976)*	X	X	X
Difficulty in selecting from alternatives	X	X	X
Inability to plan or set goals	X	X	X
Few established principles or ideals	X	X	X
General academics			
Severe underachievement	X		X
Random response behavior/impulsive guessing (Havertape, 1976)*	X	X	X
Difficulty in interpreting and using symbols	X	X	X
Inability to monitor quality of academic tasks (Deshler, 1975)*	X		
Nonattentive to directions (Havertape, 1976)*	X		X
Truancy	X		X
Distractibility	X	X	X
Hyperactivity	X	X	X
Short attention span	X	X	X
Reading			
Perceptual confusion	X	X	X
Problems with reading rate**	X		X
Decoding problems**	X		X
Comprehension problems**	X		X
Difficulty in remembering what was read**	X		X
Visual discrimination problems**	X	X	X
Problems in automaticity**	X		
Written language			
Handwriting problems**	X		X
Spelling problems**	X		X
Writing formulation**	X		X
Notetaking**	X		X
Organizing ideas in paragraphs**	X		X
Lack of punctuation**	X		X
Lack of capitalization**	X		X
Mathematics			
Problems with part-whole relationships**	X		X
Problems with fractions, decimals, percentages**	X	X	X
Problems in calculation**	X	X	X
Remembering sequences of steps**	X	X	X
Monitoring problems**	X		X
Remembering for oral arithmetic	X	X	X

*Data-based information

**Clinical data

Source: Mangrum, C. T., and Strichart, S. College and the Learning Disabled Student. Grune and Stratton, 1984, pp. 26-31.

COGNITIVE

Learning disabled college students typically have difficulty with the following.

Acquiring a fund of information about the world
Sequencing events and ideas
Understanding abstract concepts
Spontaneously employing cognitive strategies
Switching strategies as appropriate
Distinguishing important from unimportant information
Reasoning in a deductive manner
Perceiving cause-and-effect relationships
Remembering things seen and heard (short- and longterm)
Sustaining attention to tasks
Organizing ideas and information
Generalizing skills from one task and situation to another

LANGUAGE

Language difficulties are the core of learning disabilities. The detintion of specific learning disabilities appearing in Public Law 94-142, the Education for All Handicapped Children Act, states that a specific learning disability refers to a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. Deficits in both spoken and written language are characteristic of college learning disabled students. These deficits interfere with performance in virtually all courses taken by these students. Learning disabled college students typically have difficulty with the following.

Spoken Language
- Grasping what others say to them
- Using mature syntactical patterns
- Using an appropriate range of vocabulary
- Retrieving the appropriate word for a situation
- Using words in their appropriate context

Written Language
- Expressing themselves precisely and clearly
- Using a variety of sentence structures
- Using mature syntactical patterns
- Using an appropriate range of words
- Using long and/or difficult words
- Organizing thoughts
- Using punctuation correctly
- Using a sufficient number of verbs, adjectives, and adverbs
- Writing compositions of sufficient length for the purpose

Mathematics
- Doing computations
- Mastering the multiplication tables
- Reasoning mathematically
- Solving mathematical problems
- Recalling the sequence of an operational process
- Understanding and retaining terms representing quantitative concepts

WORK AND STUDY HABITS

As learning disabled students progress through school, efficient and effective work and study habits become increasingly important. By the college level, these work and study habits are of crucial significance. Learning disabled college students were described as generally lacking good work and study habits. Learning disabled college students typically have difficulty with the following.

- Organizing and budgeting time
- Completing work when due
- Getting work started
- Sustaining effort on a task
- Establishing short- and longterm goals and objectives
- Identifying the essential requirements of a task
- Integrating information from various sources
- Using library resources
- Using the dictionary and other reference tools
- Taking complete and accurate notes
- Outlining important information in a text
- Controlling test anxiety

SOCIAL

Increasing attention is being given to the social difficulties experienced by learning disabled children. The social difficulties experienced by these children apparently carry over into young adulthood. Cordoni (1982b) has identified social functioning as a major problem area for learning disabled college students. Her view is supported by many other professionals who are working with this population. Learning disabled college students typically have difficulty with the following.

- Establishing good relationships with others
- Making friends
- Working effectively with others
- Maintaining appropriate family relationships
- Reading body language and facial expressions
- Manifesting appropriate social behaviors
- Saying what is thought or felt
- Avoiding saying or doing things that are later regretted
- Knowing what to say in a situation
- Understanding humor and sarcasm
- Engaging in "small talk"
- Developing and maintaining hobbies and interests
- Maintaining appropriate personal appearance
- Relating to authority figures such as professors and advisors

PERCEPTUAL-MOTOR

Perceptual-motor deficits are one of the primary characteristics of young learning disabled children. It is generally believed that these deficits phase out as the learning disabled child matures. We found, however, that professionals working with college learning disabled students reported that perceptual-motor problems were still present among some of these students. Learning disabled college students sometimes have difficulty with the following.

Perceiving the correct orientation of complex visual figures
Perceiving spatial attributes
Dealing with three-dimensional figures and arrays
Discriminating complex visual designs and configurations
Forming a visual Gestalt
Locating specific information on a page
Discriminating complex sounding words
Performing tasks requiring fine motor coordination

ACADEMIC

We were consistently told that learning disabled college students had deficits in all basic skills areas. Individual students typically had deficits in one or all of the basic skills of reading, spelling, handwriting, and mathematics. Reported achievement levels for basic skills ranged from third grade to college level. Learning disabled college students typically have difficulty with the following.

Reading
- Applying phonics rules and generalizations
- Decoding unfamiliar words
- Understanding what was read
- Determining main ideas
- Maintaining an efficient rate of reading
- Adapting reading rate to specific reading purposes

Spelling
- Maintaining the correct sequence of letters when spelling words
- Perceiving sound-letter correspondence when spelling words
- Spelling irregular words
- Spelling complex words

Handwriting
- Establishing a comfortable style of writing
- Maintaining an efficient rate of writing
- Writing in cursive
- Forming legible letters
- Forming letters of appropriate size
- Forming letters of consistent size throughout the same paper
- Producing neat papers
- Keeping writing within the margins
- Gripping the pencil properly
- Using upper case letters correctly
- Maintaining writing quality when time limits are involved such as during timed tests or taking notes from lectures

AFFECTIVE

A wide range of affective characteristics was reported in descriptions of learning disabled college students. These affective characteristics represent emotional or feeling states. They occurred in varying patterns and degrees for any given student. Learning disabled college students typically have difficulty with the following.

Establishing a positive self-concept
Establishing a sense of security
Establishing a sense of competence
Developing self-confidence
Avoiding overdependence on others
Accepting criticism by others
Adjusting to the feelings of others
Tolerating frustration
Viewing their life prospects optimistically
Trusting others
Acting maturely
Clarifying their values about life
Meeting responsibilities
Curbing impulsive behavior
Subordinating their own welfare to that of others
Maintaining motivation
Controlling anxiety
Interacting with others in a nondefensive manner